

Cytochrome Oxidase: Structure, Function and Physiopathology

Program for June 20/21, 1988 at the Accademia  
Nazionale dei Lincei in Rome, via della Lungara, 10.

June 20

9 00 Opening Ceremony

Morning Session : Structural properties of eucaryotic  
and procaryotic Cytochrome Oxidase, topology and interactions  
with the membrane. H. Beinert (Department of Biochemistry,  
Medical College of Wisconsin, Milwaukee, USA) Chairperson

9 30 R. A. Capaldi (Institute of Molecular Biology,  
University of Oregon, Eugene, USA) Structure and function of  
Cytochrome Oxidase: an overview

10 20 Coffee break

10 40 A. Azzi (Institute fur Biochemie und Molekularbiologie,  
Universitat Bern, Bern, CH) Subunit I is the catalytic center of  
Cytochrome Oxidase.

11 20 J. Fee (Los Alamos National Laboratories, Ann Arbor,  
USA) Structure and function of oxidases from Thermus Thermophilus

12 00 M.K.F. Wikstrom (Department of Medical Chemistry,  
University of Helsinki, Helsinki, Fin) Structural models of the  
redox centres in Cytochrome Oxidase

12 40 Lunch Break

June 20

Afternoon session: Chemistry of the active sites, metal-protein interactions, kinetics and mechanisms of electron transfer. C. Greenwood (School of Biological Sciences University of East Anglia, Norwich, UK) Chairperson

14 30 G. Babcock (Department of Chemistry, Michigan State University, East Lansing, USA) Transient states by Raman spectroscopy of cytochrome oxidase

15 10 G. Palmer (Department of Biochemistry, Rice University, Houston, USA) Redox interactions and ligand binding of metal centres

15 50 H.B. Gray (Division of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, USA, not confirmed) Long range electron transfer in proteins

16 30 Coffee break

16 50 M.T. Wilson (Department of Chemistry, University of Essex, Colchester, UK) Electron transfer and conformational states in cytochrome oxidase

17 20 Y. Oori (Department of Public Health, Kyoto University, Kyoto, Japan) Intermediates in the reaction of reduced oxidase with dioxygen

18 00 General Discussion

June 21

Morning session: Bioenergetic role of Cytochrome Oxidase and mechanism of energy transduction. S. Papa (Institute of Medical Chemistry and Biochemistry, University of Bari, Bari, Italy) Chairperson

9 00 S.I. Chan (Noyes Laboratories, California Institute of Technology, Pasadena, USA) The role of copper in proton pumping

9 40 M. Brunori (Department of Biochemical Sciences, University of Rome, Rome, Italy) Subunit structure and proton pumping in Cytochrome Oxidase

10 20 Coffee break

10 40 P. Mitchell (The Glynn Research Institute, Bodmin, U.K. not confirmed) Possible protonmotive osmochemistry in cytochrome oxidase

11 20 B.G. Malmstrom (Department of Biochemistry and Biophysics, University of Goteborg, Goteborg, Sweden) Transition state mechanism for proton pumping in cytochrome oxidase

12 00 G. F. Azzone (Institute of General Pathology, University of Padova, Padova, Italy) Regulation of energy transduction in mitochondria

12 40 Lunch break

June 21

Afternoon session: Biosynthesis, assembly and  
physiopathological role of Cytochrome Oxidase. S. Ferguson-Miller  
(Department of Biochemistry, Michigan State University, East  
Lansing, USA) Chairperson

14 30 R.P. Poyton (Department of Molecular, Cellular and  
Developmental Biology, University of Colorado, Boulder, USA)  
Biosynthesis and assembly of yeast cytochrome oxidase

15 10 S. Di Mauro (Department of Neurology, College of  
Physicians and Surgeons of Columbia University, New York, USA)  
Clinical and biochemical studies on Cytochrome Oxidase  
deficiencies

15 50 Coffee break

16 10 R. Bisson (Institute of General Pathology, University  
of Padova, Padova, Italy) Environmental effects on subunit  
expression in Dictyostelium discoideum

16 50 Closing Lecture: B. Chance (Department of  
Biochemistry and Biophysics, University of Pennsylvania,  
Philadelphia, USA) Regulation of metabolic activities

17 30 Closing of the Workshop